

## **REMARKS**

### ***Generally***

Claims 13-25 remain pending in the present application. In this Response, claims 13-24 have been amended for clarity. Exemplary support for the claim amendments can be found throughout the specification and claims as originally filed. See, for example, page 12, lines 22-24 of the present specification.

Initially, it is noted that the Examiner has indicated in the Interview Summary dated August 17, 2009 that the amendments to claim 13, which were forwarded to the Examiner via facsimile on August 12, 2009, raise new issues requiring further consideration and/or search. Thus, Applicants submit herewith a RCE to gain entry of the above-identified claim amendments. The Examiner has also indicated in the Interview Summary that "there is no showing that your Yarn can have antibacterial and antifungal properties when you amend your claim 13 to excluded mineral coating". In this regard, Applicants respectfully submit that the antibacterial and antifungal properties of the yarn are imparted by the zinc sulphide. (See, for example, page 2, lines 21-23 and page 5, lines 24-26 of the present specification). Thus, the presently recited yarn, which comprises a composition comprising at least one polymer matrix and zinc sulphide particles, has antibacterial and antifungal properties due to the zinc sulphide particles. Accordingly, Applicants respectfully submit that the present specification shows that the presently recited yarn has antibacterial and antifungal properties whether the zinc sulphide particles are uncoated or coated with a mineral. (See, for example, page 12, lines 4-24 of the present specification).

Applicants respectfully request the Examiner to reconsider and withdraw the outstanding rejections in view of the foregoing amendments and the following remarks.

### ***Rejection under 35 U.S.C. § 112***

Claims 13-17, 19, and 20 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite because yarns, fibers, or filaments "mean the same thing" and "the use of a confusing variety of terms for the same thing is not permitted". (Office Action, Page 2). Without conceding the propriety of the rejection and merely to expedite prosecution, as the claims have been amended to delete "fibers or filaments", the rejection of the claims under 35 U.S.C. § 112, second paragraph, is moot.

***Rejections under 35 U.S.C. § 102 and § 103***

Claims 13-17 and 20 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 5,714,255 (hereinafter "Yeh") alone or optionally taken with WO 9967451 (hereinafter "Kane"). Claims 13-17 and 19 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Kane. Claims 13-17 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 6,071,612 (hereinafter "Roderiguez"). Claims 13-17 and 19 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent Application No. 10/500,699 (hereinafter "the '699 application"). Claim 20 has been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Yeh or Roderiguez or Kane taken with U.S. Patent No. 5,180,585 (hereinafter "Jacobson"). These rejections are respectfully traversed.

***Legal Standards***

With regard to the anticipation rejections, it should be noted that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). It should further be noted that unless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 USC 102. *Net Moneyin, Inc. v. Verisign, Inc.*, 545 F.3d 1359, 88 U.S.P.Q.2d 1751 (Fed. Cir. Oct. 20, 2008).

With regard to the obviousness rejections, it should be noted that the Office has the initial burden of establishing a factual basis to support the legal conclusion of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). For rejections under 35 U.S.C. § 103(a) based upon a combination of prior art elements, in *KSR Int'l v. Teleflex Inc.*, 127 S.Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007), the Supreme Court stated that a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006).

*Presently Pending Claims and the Present Disclosure*

Amended independent claim 13 recites yarns with antibacterial and antifungal properties, comprising a composition comprising at least one polymer matrix and zinc sulphide particles, wherein the zinc sulphide particles do not comprise a mineral coating.

Applicants respectfully submit that the presently described zinc sulphide particles provide antibacterial and antifungal properties to the yarns. (See, for example page 2, lines 21-23 of the present specification). Applicants respectfully submit that these particles are simple, inexpensive, easy to produce and easy to use in articles based on a polymer matrix. (See, for example, page 2, lines 14-16 of the present specification). Applicants further respectfully submit that the zinc sulphide particles disperse readily in the polymer matrix. (See, for example, page 2, lines 24-25 of the present specification). Applicants also respectfully submit that these zinc sulphide particles have the advantage of withstanding the forming temperature of the thermoplastic matrix and they do not cause problems of degradation, coloration, or yellowing of the yarns. (See, for example, page 3, lines 18-20 and lines 24-25 of the present specification). Furthermore, Applicants respectfully submit that the presently described zinc sulphide particles are not abrasive and have the advantage of being a good delustrant. (See, for example, page 4, line 2 and lines 6-7 of the present specification).

Thus, Applicants respectfully submit that the presently described zinc sulphide particles provide several unexpected technical advantages over the particles described in the art cited by the Examiner.

*Cited Art*

Yeh describes carpet fibers having added therein phosphorescent pigments, specifically zinc sulphide copper activated pigments. (Abstract).

Kane relates to the use of zinc sulphide as a delusterant in a thermoplastic polymer matrix to form flock fibers with reduced wear on the cutting blade. (See page 1, lines 5-10 and page 5, lines 5-7).

Roderiguez describes a process for making a melt-spun polyester fibrous product with a zinc sulphide delusterant. (Abstract).

Jacobson discusses an antimicrobial composition comprising inorganic particles with a first coating comprising metal derivatives providing antimicrobial properties and with a second coating comprising silica, silicates. (See claim 1).

The '699 application describes the use of zinc sulphide as an agent for combating

acarids. (Abstract).

*Differences between Cited Art and Presently Pending Claims*

Applicants respectfully submit that Yeh does not disclose or suggest yarns with antibacterial and antifungal properties comprising zinc sulphide particles which do not comprise a mineral coating. Further, Applicants respectfully submit that Yeh does not disclose zinc sulphide but instead discloses zinc sulphide copper activated pigments. Moreover, Applicants respectfully submit that Yeh does not disclose yarns with antibacterial and antifungal properties.

Applicants respectfully submit that neither Kane nor Roderiguez disclose or suggest yarns with antibacterial and antifungal properties comprising zinc sulphide particles which do not comprise a mineral coating. Further, Applicants respectfully submit that neither Kane nor Roderiguez disclose or suggest yarns with antibacterial and antifungal properties.

Applicants respectfully submit that Jacobson does not disclose or suggest yarns with antibacterial and antifungal properties comprising zinc sulphide particles which do not comprise a mineral coating. In fact, Applicants respectfully submit that Jacobson describes the use of complex particles with a mineral coating. (See claim 1 and Col. 2, lines 37-44 of Jacobson). Further, Applicants respectfully submit that compared with the presently recited zinc sulphide particles, Jacobson's particles are complicated to produce because the core particles in Jacobson are coated with two coatings. In contrast, the presently recited zinc sulphide particles are simple, inexpensive, easy to produce and easy to use in articles based on a polymer matrix. (See, for example, page 2, lines 14-16 of the present specification).

Applicants respectfully submit that the acarids described in the '699 application are not bacteria or fungi. Further, Applicants respectfully submit that the '699 application does not disclose or suggest yarns with antibacterial and antifungal properties comprising zinc sulphide particles which do not comprise a mineral coating.

Thus, Applicants respectfully submit that Yeh, Kane, Roderiguez, Jacobson, and the '699 application, either alone or in any combination fail to disclose or suggest yarns with antibacterial and antifungal properties, comprising a composition comprising at least one polymer matrix and zinc sulphide particles, wherein the zinc sulphide particles do not comprise a mineral coating, as presently recited.

***Conclusion***

In light of at least the foregoing, Applicants respectfully submit that the rejections over Yeh, Kane, Roderiguez, Jacobson, and the '699 application should be withdrawn.

Applicants invite the Examiner to contact Applicants' representative at the telephone number listed below if any issues remain in this matter, or if a discussion regarding any portion of the application is desired by the Examiner.


In the event that this paper is not timely filed within the currently set shortened statutory period, Applicants respectfully petition for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

In the event that any additional fees are due with this paper, please charge our Deposit Account No. 02-4800.

Respectfully submitted,

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